C-A OPERATIONS PROCEDURES MANUAL

7.1.5 Compressor Room - Water System Operation

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7.1.5 Compressor Room - Water System Operation

1. Purpose

This procedure covers the operation of the cooling water system. The system is essentially maintained by the C-A Water Systems Group (WSG), however, operations performed in the compressor building are done by Cryogenic Group. This OPM contains the following procedures relating to the operation of the water system:

Sections: 5.1 Startup
5.2 Component Flow Rate Adjustment

2. Responsibilities

2.1 The Shift Supervisor, or an Operator designated by the Shift Supervisor, is responsible for conducting this procedure and providing documentation in the Cryogenic Control Room Log.

2.2 Should a problem arise during the completion of this procedure, the Shift Supervisor shall contact the Technical Supervisor for instructions before continuing.

3. Prerequisites

3.1 Operators shall be trained by the compressor room's cognizant engineer, and/or a person designated by the Cryogenic Operations Group Leader or Technical Supervisor, in the proper implementation of this procedure.

3.2 Operators shall become familiar with the cooling water system P&ID 3A995028, and the physical location of components throughout the compressor building.

4. Precautions

4.1 Lockout-Tagout procedures shall be used when servicing any component of the cooling water system.

4.2 Hearing protection shall be worn when the compressors are in operation.

5. Procedure

5.1 Startup

This procedure is for filling and starting the water cooling system. Contact the C-A WSG for support.

_____ [1] Request the C-A WSG to FILL the main water headers with water.

_____ [2] Request the C-A WSG to TEST the water system's pumps and piping.

_____ [3] FILL water side of oil coolers and inspect for leaks (1st stage, 2nd stage, redundant, and utility compressor skids).

_____ [4] FILL intercooler and aftercooler heat exchangers as per C-A-OPM 7.1.4, "Compressor Room - Heat Exchanger Skid Operation".

_____ [5] Request the C-A WSG to circulate water and test for overall operation and control.

_____ [6] Tune the water system as per section 5.2 of this procedure.

5.2 Component Flow Rate Adjustment

This procedure is for adjusting the cooling water flow through each component in the compressor room. It shall be performed after an extended down time or after a maintenance period. It is assumed that the procedures of section 5.1 have been performed and the system is operating normally.

_____ [1] MEASURE the differential pressure across each water cooled heat exchanger. Use the water side vent and drain connections to attach a differential pressure gauge.

_____ [2] THROTTLE the water flow to each cooler to obtain the design pressure drop and flow rate. See C-A-OPM-ATT 7.1.5.a for a listing of flow and pressure drop requirements for each cooler.

_____ [3] RECORD in the Cryogenic Control Room Logbook which device has been adjusted, parameters, and log the approximate position of the valves.

6. Documentation

6.1 The check-off lines on the procedure are for place-keeping only. The procedure is not to be initialed or signed, it is not a record.

6.2 The Shift Supervisor shall document the completion of the procedure in the Cryogenics Control Room Log

7. References

7.1 P&ID drawing 3A995028.

7.2 BNL Compressor Station Operating Manual Volume I as supplied by Koch Process Systems Inc.

7.3 C-A-OPM 7.1.4, "Compressor Room - Heat Exchanger Skid Operation".

8. Attachments

C-A-OPM-ATT 7.1.5.a “Cooling Water Requirements”